CONTENTS OF VOLUME 7

PART 1 JANUARY 1960

On the flow past a quarter infinite plate using Oseen's equations. By K. STEWARTSON and L. HOWARTH *page* 1

The time-dependent magnetohydrodynamic flow past a flat plate. By G. F. CARRIER and H. P. GREENSPAN 22

Forced small-amplitude water waves: a comparison of theory and experiment. By F. URSELL, R. G. DEAN and Y. S. YU 33

The stability and transition of a two-dimensional jet. By HIROSHI SATO 53

A shallow-liquid theory in magnetohydrodynamics. By L. E. FRAENKEL 81

Steady finite motions of a conducting liquid. By ROBERT R. LONG 108

Free convection in the tilted open thermosyphon. By F. M. LESLIE 115

Inviscid flow of a reacting mixture of gases around a blunt body. By WILBERT LICK 128

The viscous secondary flow ahead of an infinite cylinder in a uniform parallel shear flow. By ALAR TOOMRE 145

REVIEWS

Electromagnetic Phenomena in Cosmical Physics 156

Magnetohydrodynamics 156

The Plasma in a Magnetic Field 156

The Magnetodynamics of Conducting Fluids 156

PART 2 FEBRUARY 1960

Behaviour of small regions of different gases carried in accelerated gas flows. By GEORGE RUDINGER and LOWELL M. SOMERS 161

Taylor instability of finite surface waves. By H. W. EMMONS, C. T. CHANG and B. C. WATSON 177

Dispersion due to molecular diffusion and macroscopic mixing in flow through a network of capillaries. By P. G. SAFFMAN 194

Wave resistance to vertical motion in a stratified fluid. By F. W. G. WARREN 209

The viscosity of a suspension of spheres. By A. D. MAUDE 230

Force-momentum fields in a dual-jet flow. By DAVID R. MILLER and EDWARD W. COMINGS 237

The boundary layer near the stagnation point in hypersonic flow past a sphere. By T. K. Herring *page* 257

A presentation of cnoidal wave theory for practical application. By R. L. Wiegel 273

Optimum power generation from a moving plasma. By Joseph L. Neuringer 287

Motion of a bore over a sloping beach. By H. B. Keller, D. A. Levine and G. B. Whitham 302

Reviews

Applied Hydrodynamics 317

The Potential Theory of Unsteady Supersonic Flow 319

Proceedings of the Sixth Midwestern Conference on Fluid Mechanics 320

Part 3 March 1960

Interaction of a shock wave with a mixture region. By N. Riley 321

Centrifugal waves. By O. M. Phillips 340

The impact of a water wedge on a wall. By E. Cumberbatch 353

Temperature fluctuations in the atmospheric boundary layer. By C. H. B. Priestley 375

An experiment on the stability of hypersonic laminar boundary layers. By Anthony Demetriades 385

Measurements of the effect of molecular diffusivity in turbulent diffusion. By William R. Mickelsen 397

An empirical torque relation for supercritical flow between rotating cylinders. By R. J. Donnelly and N. J. Simon 401

A comparison between buoyant vortex rings and vortex pairs. By J. S. Turner 419

The stability of free boundary layers between two uniform streams. By T. Tatsumi and K. Gotoh 433

A note on fluctuating heat transfer at small Péclet numbers. By C. R. Illingworth 442

On the motion of thin airfoils in fluids of finite electrical conductivity. By James E. McCune 449

On the generation of surface waves by turbulent shear flows. By John W. Miles 469

Reviews

Liquid Helium 479

PART 4 APRIL 1960

The instability of uniform viscous flow under rollers and spreaders. By J. R. A. PEARSON *page* 481

Instability of a viscous liquid of variable density in a vertical Hele-Shaw cell. By R. A. WOODING 501

On the flow of a conducting fluid past a magnetized sphere. By G. S. S. LUDFORD and J. D. MURRAY 516

The Stokes flow problem for a class of axially symmetric bodies. By L. E. PAYNE and W. H. PELL 529

The influence of hole dimensions on static pressure measurements. By R. SHAW 550

Remarks on transition in a round tube. By A. M. O. SMITH 565

The linearized flow of a dissociating gas. By J. F. CLARKE 577

An experimental study of the forces generated by the collapse of transient cavities in water. By I. R. JONES and D. H. EDWARDS 596

Curvature of attached shock waves in steady axially symmetric flow. By E. BIANCO, H. CABANNES and J. KUNTZMANN 610

The rotationally symmetric flow of a viscous fluid in the presence of an infinite rotating disk. By M. H. ROGERS and G. N. LANCE 617

A laminar planetary jet. By ROBERT R. LONG 632

INDEX TO VOLUME 7 639